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Doorphone

Link Slim Door Phone

User Guide for
Link Slim Door phone

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1. Basic description

1.1 Features

- ➢ Very slim module for surface mounting only. Supplied in 1, 2 or 4 button variants.
- ➢ Voice communication powered from analogue telephone line only.
- ➢ Pulse and tone (DTMF) dial
- ➢ Two 16 digits numbers saved under each button (includes *, #, RECALL and pause)
- ➢ DAY/NIGHT mode
- ➢ Call prolongation by dialling * or #
- ➢ Electrical (magnetic) lock compatible
- ➢ Code to hang up from phone
- ➢ Code to open the door by phone
- ➢ 3 different passwords for code lock (external code from buttons)
- ➢ Optional number of rings before picking up incoming call
- ➢ Optional time between code entry button-presses
- ➢ Optional delay time before redialling
- ➢ Optional time before dialling starts
- ➢ Optional parameters for DTMF tones, Recall and Pause duration
- ➢ 3 default levels
- ➢ Programming by remote control (DTMF) and by direct PC connection via USB cable (available separately)
- ➢ Integrated heating of printed circuit (PCB) (option)
- ➢ Permanent lighting through visiting cards (option)
- ➢ Earthing outlet for better protection against static electricity
- ➢ Switchable audible confirmation tones

1.2 SlimDoorPhone models

Three versions are available :

1 button   2 buttons   4 buttons

2 Installation

This compact unit is fixed by 2 screws to the wall.

2.1 Opening, wiring, wall mounting and settings

2.1.1 Name card panel

1. Every unit is supplied with a special key which is used to release the name cards on the front panel. Push the key into the hole in the speaker grille
   (see figure - 1).
2. Push the name card panel down and then push it towards to grille (see figure-2).
3. The panel will be released. Pull it towards you to remove (see figure – 3).

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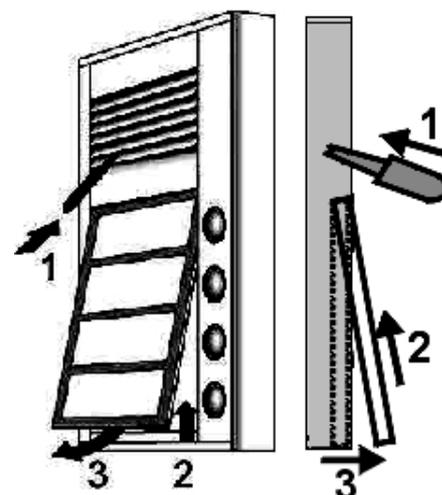
2.1.2 Uncover control elements

4. Push the aluminium speaker grille down (see figure – 4).
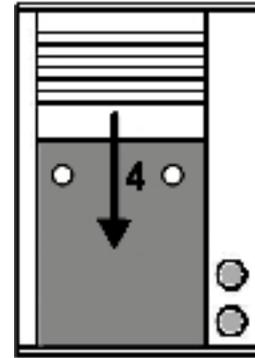
2.1.3 Wiring and wall mounting

5. Use the wall mounting template at the end of the manual to mark the position for the screw holes and cable connection on the mounting surface. Drill the holes.

6. Feed the cable (analogue line, power supply, lock – see figure - 6) through the cable hole.
Fix the panel to the wall using the screws and rawlplugs supplied.

 Note: Some materials such as metal and wood may require special screw types.

To power the unit for voice, connect the telephone wires into the terminal (on the right side). Using either a standard analogue phone line or an analogue extension on a PBX.

For the external power supply, connect to the terminal "**12V**" external power supply AC min. 10V / max. 15V or DC min. 12V / max. 18V.

The energy consumption of a connected electrical (magnetic) lock (0,5A – 1,0A) determines the load on the power supply. If you activate the heating feature the PCB current will climb to about 150mA. We recommend power supply AC 12V/1A.
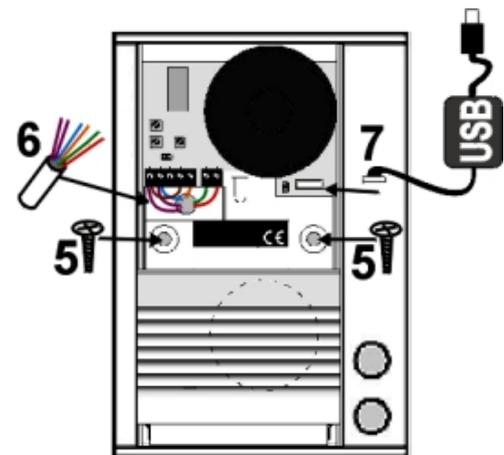
The wiring of relay contacts is explained in the next picture. The symbol "**NO**" means contact normally open, "**COM**" means sharing output

(central) and "**NC**" means contact normally closed. The relay contact is isolated from the other circuits on the board. For the variants of lock connection see the picture below.
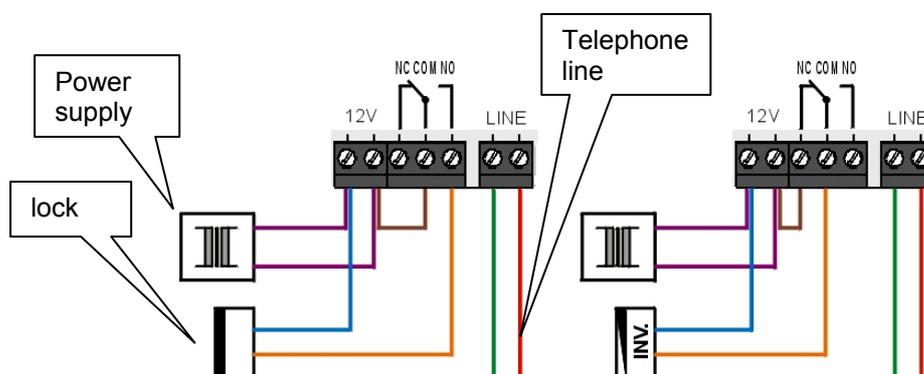
Wiring of standard and magnetic (inverse) lock

6. A special USB cable enables the doorphone to be connected to a PC for programming of individual parameters. A dedicated Windows program is included on the CD (requires version W98SE or higher).

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2.1.4 Switches

7. The switch **number 1** (see figure – 8) activates **heating** of the PCB. This is for increased resistance against humidity. To use this feature you must connect an external 12V power supply.

8. The switch **number 2** (see figure – 9) is required for programming the unit when the password is forgotten. It is performed by ordinary phone (DTMF – tone dial).

The switch is
on
off 1 2
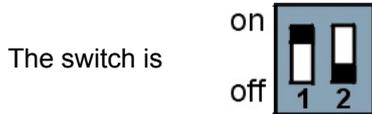
The PCB heating has two major benefits. Firstly, it warms the board during winter time (temperatures under -20 C, most circuits have warranty operation down to -20 C) and secondly it helps to protect the PCB against humidity when installed outside.

2.1.5 Voice level

9. Voice communication – the trimmer position is factory and should be suitable for most installations. Change the trimmer position only when necessary.

The trimmer "**MIC**" is designed for microphone volume setting. The trimmer "**SPK**" is designed for loudspeaker volume setting.
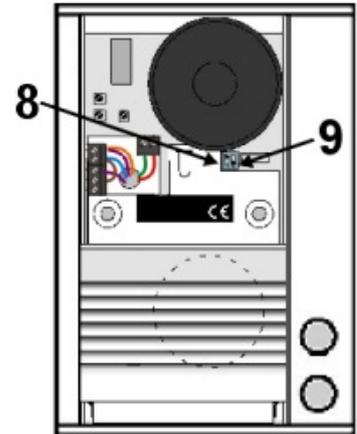
The volume settings are more than adequate for most situations. Therefore we do not recommend setting the trimmer position more than ½. The most suitable position is 1/3 from minimum amplification.

The trimmer "**TRH**" is designed for setting the microphone activation level. It allows balancing between the microphone and speaker to eliminate feedback. This setting is also influenced by the noise of the surrounding environment.

Set up Process: The trimmers MIC and SPK are set to ¼ position from minimum loudness level (turn fully anti-clockwise for minimum). The trimmer TRH is set to a central position. To fine tune, make a test call. Speak quietly, and by adjusting the trimmer TRH from the central position anticlockwise, your speech should be heard more clearly by the PBX user. The amplification of the speaker can be adjusted according to your requirements. Voice interruption might occur if you set the amplification too high. In this case you can use the trimmer TRH to correct the balance between the speaker and the microphone.

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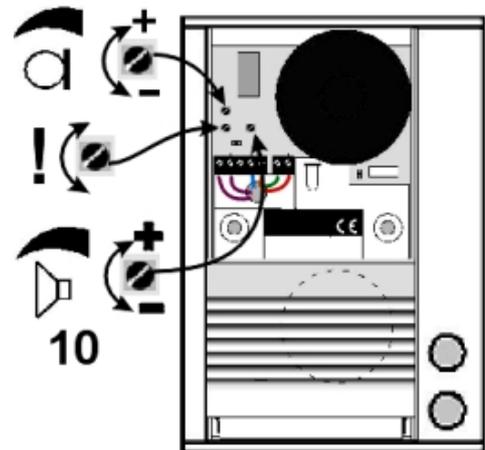
2.2 Location of ID Doorphone components

All mounting, control and setting elements are located under the speaker front aluminium grille.

| MIC-setting of microphone volume |
| SPK- setting of speaker volume |
| Loudspeaker |
| Service switch |
| TRH – setting of microphone activation level |
| PC connector |
| Heating activation |
| SlimDoorPhone fixing screw hole |
| Telephone line connection |
| 12V =/~ for relay, light and heating |
| Hole for lead in cable |
| Relay
NC COM NO |
| Microphone |
| Buttons |

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2.3 Changing name cards

Name card panel (0on page 3) has spaces
to insert printed name cards. Insert name cards
from top (see picture). Cards can easily be printed
with pictures as well as text using the included
software. The card outline is marked for easy cutting .

pocket

Panel with cards
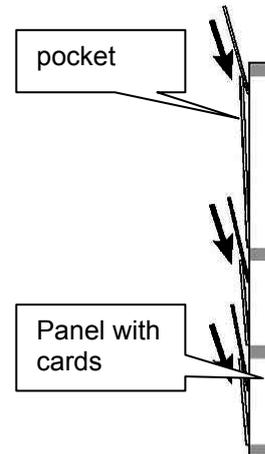
2.4 Final closing of ID Doorphone

2.4.1 Covering control elements

1. Push aluminium speaker cover back up (see picture). Take care when re-
covering the speaker. The aluminium edge of the speaker may be gently
pressed if required.
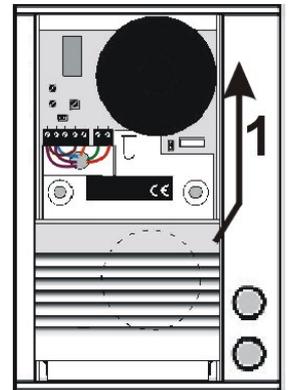
2.4.2 Replacing name card panel

2. Push key into hole in speaker grille as far as possible. (see
figure -2).
3. Push name card panel upwards and push the bottom edge in
(see figure - 3).
4. Push the name card panel back down behind the lip of the
casing (see figure - 4).

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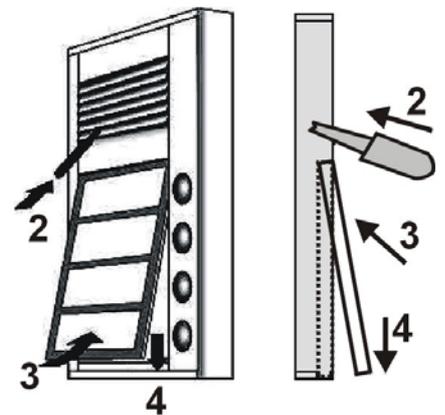
3 SlimDoorPhone Services

3.1 Signalling Overview

The unit signals acoustic conditions that may occur during operation. You can listen to the signalling samples in the ID Manager program.

Condition	Tones	Tone frequency
Pick up line		425-850-1275
Hang up line		1275-850-425
Confirm command		425
Dialling	DTMF/Pulse	
Call		
Conversation end warning		1275
Enter programming (phone or PC)		850
Programming tone		mod. 850
Parameter confirmation		
Programming from PC	Silent	
Connection to line (Reset)		1275-850-1275
Error		425….
Empty memory		850-1275-1700…
Open lock		modul 50/1250

3.2 Visitor at the door

When a visitor presses a button the unit will lift up the line, either immediately (providing the button is not the first number from code lock), or with delay (*parameter 53)* and after period given by *parameter 55,* will dial the programmed phone number. The dialled number is dictated by the chosen mode, which is set in the unit (*parameter 47*):
- **Day/night mode** = If the unit is in Day mode, it will always dial the number set in *parameter 1*, In Night mode, it will always dial the number set in *parameter 2*. The mode switchover is set in *parameters 45,46.*
- **Two-Group mode** = on the first press the number set in *parameter 1* will be dialled. By pressing of the same button twice, or on detection of busy tone after trying the first number, the unit will select the number from the second group (*parameter 2*). The next press of the same button again selects the number from the first group, etc..……

If the button is pressed after the line has been opened (but before the call is answered), the unit will hang up for the period given by *parameter 54,* lift up the line and dial the other group number.

The relay can be controlled by pressing the buttons in the combination that is set in the preprogrammed code (*parameters 32-34*). The time between presses must not be bigger than that set in *parameter 53.* The unit will lift up and close the corresponding relay or the period given by *parameter 36* . Then it will hang up.

3.3 Telephone Caller

A Telephone Caller is a person that is in phone connection with SlimDoorPhone.

3.3.1 Outgoing call

An "outgoing" call is a call from the unit (i.e. when a visitor presses a button). Once the visitor has pressed a button a telephone will ring. On answering the telephone, you will be able to converse with the visitor. 10 seconds before the maximum call duration (*parameter 52*) the unit will emit a tone to warn that the call will end. The call may be extended by pressing the key as set in *parameter 42*. A code may be

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dialled to close the relay (*parameter 35*), releasing the lock. Hanging up the telephone will end the call, as will the busy tone from the PBX.

3.3.2 Incoming call

An incoming call is a call to the unit. After dialling the PBX extension number to which the unit is connected, the unit will ring for the set number of rings (*parameter 51*), the unit will lift up and it is possible to speak. The possibilities are the same as with outgoing call (Chapter 3.3.1). It is also possible to switch between Day and Night service.

- If, within the first 10 seconds, the service password is entered, the unit will switch to programming mode and voice communication will cease.
- During an incoming call it is possible to restrict relay control *(parameter 37).* This can be useful in some special applications.

4 Parameter programming

4.1 Programming from a telephone by DTMF

4.1.1 Entering programming mode

The SlimDoorPhone may be set to programming mode in two ways:
1. **by password** – dial the unit's number *(either extension number, if connected to a PBX or telephone number, if connected to a PSTN line)*. The unit will answer (you will hear the **Pick up line** tone – see Chapter 3.1 page8). Within 10 seconds dial **#xxxx**, where xxxx is the password for entry to programming and, if OK, the registration tone for programming mode will sound, and afterwards the **Programming** tone is heard (see Chapter 3.1 page 8).
2. **by "SERVICE" switch** – dial the unit in the same way as in 1, but when the SERVICE switch is connected, the unit will automatically enter programming mode. You will hear the call connection confirmation tone, the confirmation tone for programming mode and afterwards the **Programming** tone is heard. (see Chapter 3.1 page 8).

4.1.2 Parameter programming

The initial state for programming is signalled by the programming confirmation tone. The unit will always revert to this state after 5 seconds of inactivity, even if you have started to program a parameter.

When programming, there are two types of parameters. The majority are parameters with a **fixed length**. The parameter is always saved immediately and is confirmed by Parameter Confirmation tone. Parameters **with variable length** (*parameters 1,2,32,33,34*) are saved after the inactivity period expires (5 sec). However, a varaible length parameter will be saved immediately when maximum permitted number of digits is reached. For parameters 1 and 2 the maximum number of digits is 16, and for parameters 32,33,34 it is 6.

If, during programming, you enter a number which is not allowable, then the unit immediately emits an **error tone**. The parameter will not be recorded or changed, and the unit will return to its initial programming state and it will be possible to repeat the parameter setting or program another parameter.

The unit stays inactive in programming mode for 34 seconds and will then automatically hang up. Every time a DTMF tone is dialled, this period is reset. Alternatively, parameter 9 may also be selected to end programming mode.

To program a parameter, enter the parameter number followed by the value you wish to set. The unit will either respond with the Parameter Confirmation Tone, or one of the Error Tones.

Note 1. *if you wish to maintain the connection in programming mode (i.e. extend the 34 seconds period) then it is necessary to occasionally press a key (e.g. *, # or 7). The unit will respond with an error tone but the connection will be kept alive.*
Note 2. *The # sign is not used in the values for parameters 32,33 and 34, and can be used to immediately save the parameter.*
Note 3. *If you hang up the phone during programming mode without press 9, the doorphone will stay in programming mode during 20 seconds.*

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4.2 Programming from a PC – ID Manager program

To setup the unit from a PC you will require a special USB tool cable, available separately, and must first install the USB driver and ID Manager software. Refer to the CD for more details. The unit must also be connected to the telephone line.

Procedure:
- Connect the ID Doorphone to the line
- Connect the unit to the PC with the USB tool cable.
- Run the ID Manager program. The unit will enter PC programming mode and emit the **Enter Programming tone** (see chapter 3.1). If connection is lost, it is necessary to disconnect the USB cable from unit and connect it again. The unit will answer and, providing the ID Manager program is running, it will confirm its entry into programming mode again.

Refer to the ID Manager manual for more details.
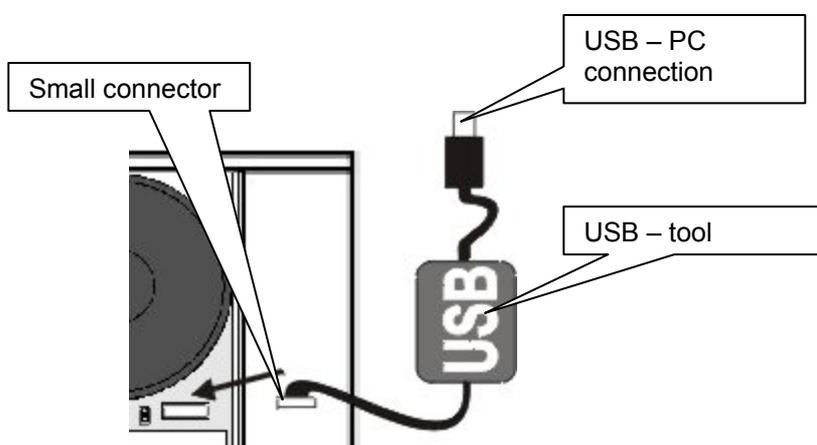
5 Parameter description

5.1 Direct Dialling – Memories

Parameter	Value	Description	Default	Exam.1	Exam.2
1	t nn…	No. **nn** under button **t**	-	-	-

t – Button number (memory) [1-4]
nn – telephone number up to 16 digits to be stored. Refer to the table for other choices.
The number stored in parameter 1 is the number for the **first group** or the number for **Day mode**.

parameter	dial
0 - 9	0 - 9
#	#
∗	∗∗
Recall	∗ #
Pause	∗ 0

Parameter	Value	Description	Default	Exam.1	Exam.2
2	t nn…	No. **nn** under button **t**	-	-	-

t – Button number (memory) [1-4]

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nn – telephone number up to 16 digits to be stored. Refer to the table for other choices.
The number stored in parameter 2 is the number for the **second group** or the number for **Night mode**

parameter	choice
0 - 9	0 - 9
#	#
∗	∗∗
Recall	∗ #
Pause	∗ 0

Note: The switchover to **Day/Night mode** remains set in the unit even after line disconnection.

5.2 Relay

Parameter	Value	Description	Default	Exam.1	Exam.2
31	**r m**	Relay mode	1	1	2

m – **relay mode** [1-2]
m=1 relay mode – relay will close on command or password for **ss** period (used for electrical locks, gate opening, etc.)
m=2 button mode – (activated by button press e.g. external bell).

Parameter	Value	Description	Default	Exam.1	Exam.2
32	**r hhhhhh**	External access code in **DAY + NIGHT** mode	-	1212	1324
33	**r hhhhhh**	External access code in **DAY** mode	-	2211	2211
34	**r hhhhhh**	External access code in **NIGHT** mode	-	1122	1122

hhhhhh – password for relay closing from buttons [2 to 6 digits]
The 3 passwords are controlled by Day/Night; the combination is entered using the unit buttons. It is influenced by the setting of **Relay mode** and **Day/Night** switchover. When set to **2-group mode** the unit is permanently in **DAY mode**.

Follow these rules when choosing password combination:
- Select passwords carefully, to prevent their discovery from wear on buttons caused by frequent use.
- Select the first password button from infrequently-used buttons for direct dialling (-extends choice time)(-not valid for keyboard).

Note: The switchover to **Day/Night mode** remains set in unit even after line disconnection.

Parameter	Value	Description	Default	Exam.1	Exam.2
35	**aa**	Internal access code	55	55	55

aa – command from phone to relay closing [2 digits]
It is recommended to set the same command for Internal Access Code and End Call (*parameter 43*) **aa=bb**.

Parametr	Value	Description	Default	Exam.1	Exam.2
36	**ss**	Relay closing time	05	02	05

ss – duration of relay closing [2 digits 01-99]

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5.3 Basic parameters

Parameter	Value	Description	Default	Exam.1	Exam.2
41	v	Dialling type	0	0	0

v – dial type
v=0 is DTMF tone dial, **v=1** is pulse dial

Parameter	Value	Description	Default	Exam.1	Exam.2
42	z	Prolong call	∗	∗	∗

z – button for call prolongation ∗ or # (10 sec before Maximum Call Duration the unit will emit a tone. Pressing this button will prolong the call)

Parameter	Value	Description	Default	Exam.1	Exam.2
43	bb	End call	55	55	55

bb – command for unit hanging up from phone [2 digits]
It is recommended to set the same command for both Internal Access Code (*parameter 35*) and End Call **aa=bb**.

Parameter	Value	Description	Default	Exam.1	Exam.2
44	xxxx	Password	0000	0000	0000

xxxx – service password for entry to programming

Parameter	Value	Description	Default	Exam.1	Exam.2
45	dd	**DAY MODE** switching	11	11	11
46	nn	**NIGHT MODE** switching	10	10	10

dd – command for **DAY MODE** switching [2 digits]
nn – command for **NIGHT MODE** switching [2 digits]
Note: The switchover to **Day/Night mode** remains set in unit even after line disconnection.

Parameter	Value	Description	Default	Exam.1	Exam.2
47	e	Dialling mode	1	1	0

e – operating mode of unit
e=0 selects **2-Group mode**, **e=1** selects **Day/Night mode**.

5.4 Time parameters

Parameter	Value	Description	Default	Exam.1	Exam.2
51	q	Number of rings before pick-up	2	1	2

q – Number of incoming call rings before a call is picked up. The number can be set from 1 to 9.

Parameter	Value	Description	Default	Exam.1	Exam.2
52	d	Maximum call duration	2	1	4

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d – maximum time in minutes for which a call may last. This time can be extended during a call by dialling Prolong Call digit from telephone (∗ or **#**). Time setting is per table.

time [min]	choice
0,5	0
1 - 9	1 - 9
15	∗
30	#

Parameter	Value	Description	Default	Exam.1	Exam.2
53	**w**	time between button presses	2	2	2

w – max. time [sec] between button presses [range 1-9]

- **relay closing** – if time between two next presses is bigger than **w** time, the code is not evaluated correctly.
- **dialling** – if the button pressed is the first password number for switch closing, so the choice is delayed by this **w** time.

Parameter	Value	Description	Default	Exam.1	Exam.2
54	**z**	On hook time before new call	2	2	2

z – time [sec] for which the unit will hang up, before repeat dialling (button pressing during call or dialling, busy tone detection) [range 1-5]

Parameter	Value	Description	Default	Exam.1	Exam.2
55	**z**	Call start time	1	1	1

z – time [sec] after unit goes on hook before dialling [range 1-5]. This time is different for each PBX, but most PBXs usually manage to process dialling up to 2 seconds after line on hook.

Parameter	Value	Description	Default	Exam.1	Exam.2
56	**h**	Number of rings before hanging up or group mode switching	12	12	12

h – specifies the amount of time spent ringing before the unit hangs up and tries the next number.

Parameter	Value	Description	Default	Exam.1	Exam.2
57	**t**	DTMF tone duration (ms)	5 (100ms)	5 (100ms)	5 (100ms)
58	**m**	Space duration between DTMF tones (ms)	5 (100ms)	5 (100ms)	5 (100ms)
59	**f**	Recall duration (ms)	1 (100ms)	1 (100ms)	1 (100ms)
50	**p**	Pause duration (ms)	8 (800ms)	8 (800ms)	8 (800ms)

t – DTMF tone duration is determined by the formula:
   (entered number + 5) x 10 = tone duration [ms]
                                    [range 1-0 i.e. 60-150ms]
m – Space duration between DTMF tones is determined by the formula:
   (entered number + 5) x 10 = gap duration [ms]
                                    [range 1-0 i.e. 60-150ms]
f – Recall duration is determined by the formula:
   entered number x 100 = Recall duration [ms]
                                    [range 1-6 i.e. 100-600ms]
p – Pause duration is determined by the formula:
   entered number x 100 = pause duration [ms]
                                    [range 5-0 i.e. 500-1000ms]

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– **p** time is simultaneously the duration of interdigit gap at pulse dialling.

5.5 Presetting and Deleting

Parameter	Value	Description	Default	Exam.1	Exam.2
8#	**#**	Default setting	executes		
8#	**1**	Setting per exam. 1		executes	
8#	**2**	Setting per exam. 2			executes

This setting does not influence **1** and **2** (numbers stored in memory)

Parameter	Value	Description	Default	Exam.1	Exam.2
81		Deletes all numbers in group 1 (Day mode)			
82		Deletes all numbers in group 2 (Night mode)			
83		Default setting only for parameters 3x	only 3..		
84		Default setting only for parameters 4x	only 4..		
85		Default setting only for parameters 5x	only 5..		

The parameters 81 and 82 will delete all numbers stored in memories for buttons.
The parameters 83 – 85 will execute a selective basic setting only for parameters starting with 3.. – 5..
ATTENTION !!! the deletion is non-reversible!!! Numbers must be programmed again.

5.6 Exit programming

Parameter	Value	Description	Default	Exam.1	Exam.2
9		E N D			

After dialling **9** the unit will hang up. If you hang up the phone during programming mode without press 9, the doorphone will stay in programming mode during 20 seconds.

5.7 System setting

Parameter	Value	Description	Default	Exam.1	Exam.2
6#	**s**	Number of fitted buttons of basic module			

The basic module is fitted with 4 buttons as standard, i.e. s = 1 is set up for basic module with one button and s = 2 for module with 2 buttons. This setting is a factory one, no service can change it and so it is recommended not to change this parameter.
Note: Connecting to the line the value of this parameter is checked and if not satisfactory for unknown reasons, so it is set up to s = 4 (fitted with 4 buttons).
ATTENTION !!! This parameter can cause the unit to function incorrectly.

Parametr	Value	Description	Default	Exam.1	Exam.2
6	**z**	Acoustic signalling	**3 and 9**	**3 and 9**	**3 and 9**

In default the unit produces acoustic signals. It can occasionally cause a problem of incorrect detection of tones by PBX. By changing parameter „**z**" you can switch off this acoustic signalization. The values are:

z=0 – all signalling is switched off
z=1 – pick up and hang up tones are active only
z=2 – other tones active only (except pick up and hang up)

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z=3 – all tones are active – (default)

It is possible to generate an audible signal (only in mode m=1) to alert visitors that the door is unlocked so that they can enter. This is especially useful when using a DC power source, as lock release may be silent.

z=8 – signalling is active

z=9 – signalling is unactive

Parameter	Value	Description	Default	Exam.1	Exam.2
6*	t	Delay of line connection (Siemens PBX)	1	1	1

Setes a delay for line pick-up (OFF HOOK) for new PBX types (particularly Siemens):

t=1 – standard operation

t=0 – delayed start

5.8 Overview of Parameters

Parameter	Value	Description	Default	Exam.1	Exam.2
1	t nn…	No. **nn** under button **t**	-	-	-
2	t nn…	No. **nn** under button **t**	-	-	-
31	r	Relay mode	1	1	2
32	hhhhhh	External access code in **DAY + NIGHT** mode	-	2211	1324
33	hhhhhh	External access code in **DAY** mode	-	2211	2211
34	hhhhhh	External access code in **NIGHT** mode	-	1122	1122
35	aa	Internal access code	55	55	55
36	r ss	Relay closing time	05	02	05
41	v	Dialling type	0	0	0
42	z	Proling call	*	*	*
43	bb	End call	55	55	55
44	xxxx	Password	0000	0000	0000
45	dd	**DAY MODE** switching	11	11	11
46	nn	**NIGHT MODE** switching	10	10	10
47	e	Dialling mode	1	1	0
51	q	Number of rings before pick-up	2	1	2
52	d	Maximum call duration	2	1	4
53	w	Time between button presses	2	2	2
54	z	On hook time before new call	2	2	2
55	z	Call start time	1	1	1
56	h	Number of rings before hanging up or group mode switching	12	12	12
57	t	DTMF tone duration (ms)	5 (100ms)	5 (100ms)	5 (100ms)
58	m	Space duration between DTMF tones (ms)	5 (100ms)	5 (100ms)	5 (100ms)
59	f	Recall duration (ms)	1 (100ms)	1 (100ms)	1 (100ms)

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50	p	Pause duration (ms)	8 (800ms)	8 (800ms)	8 (800ms)
6#	s	Number of fitted buttons on basic module			
6*	t	Delay of line connection (Siemens PBX)	1	1	1
6	z	Acoustic signalling	3 and 9	3 and 9	3 and 9
8#	#	Default setting	executes		
8#	1	Setting per exam. 1		executes	
8#	2	Setting per exam. 2			executes
81		Deletes all numbers in group 1 (Day mode)			
82		Deletes all numbers in group 2 (Night mode)			
83		Default setting only for parameters 3x	only 3..		
84		Default setting only for parameters 4x	only 4..		
85		Default setting only for parameters 5x	only 5..		
9		E N D			

6 Technical parameters

6.1 Electrical parameters

Parameter	Value	Conditions
Minimum line current	18mA	line answered
Minimum line voltage	18V	line hang up
Voltage on line while off hook (VA characteristics)	< 8V < 12V	I = 20mA I = 60 mA
Leakage in hang up status	< 50uA	U = 60V
Impedance of line termination	130R + 820R paral. 220n	line answered
Bandwidth	300Hz – 3400 Hz	20 - 60mA
Impedance of ringing	> 2Kohm	25 – 60 Hz
Sensitivity of ringing detector	min. 10 – 25 V	
Pulse choice	40 / 60 ms	
Tone choice level	4 - 6 dB	20 – 60 mA
Tone choice sensitivity	40 dB	20 – 60 mA
Sensitivity of tone detector	30 dB	20 – 60 mA
Power supply of lighting through, switches and heating	12V ± 2V , 10-12V ± 2V	
Max. consumption of lighting through and heating	300mA	12V
Max. voltage of switch contact	48V	at I < 1A
Max. current of switch contact	2A	at U < 30 V
Operational temperature	- 20 to + 50°C	

6.2 Mechanical dimensions

Dimensions WxHxD   104mm x 153mm x 16mm
Weight   360g
Unit material   elox aluminium profile
Name card panel material   acrylglas (plexiglass)

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7 Table for easy programming

Complete the values you want to program in the empty part of table on the next page. All programming commands are located in the double-framed area, to simplify programming. Retain a copy for future reference.

Use		Programming sequence		digits
Description	Detail	par.	Fill values	
Number under button **1**	Day/Gr.1	**101**		16
Number under button **2**	Day/Gr.1	**102**		16
Number under button **3**	Day/Gr.1	**103**		16
Number under button **4**	Day/Gr.1	**104**		16
Number under button **1**	Night/Gr.2	**201**		16
Number under button **2**	Night/Gr.2	**202**		16
Number under button **3**	Night/Gr.2	**203**		16
Number under button **4**	Night/Gr.2	**204**		16
Relay mode	m=1 - 2	**31**		1
External access code	Day+Night	**32**		6
External access code	Day	**33**		6
External access code	Night	**34**		6
Internal access code		**35**		2
Relay closing time	[sec]	**36**		2
Dialling type	1 / 0	**41**		1
Prolong call	* / #	**42**		1
End call		**43**		2
Password		**44**		4
DAY MODE switching		**45**		2
NIGHT MODE switching		**46**		2
Dialling mode	1 / 0	**47**		1
No. of rings before pick-up		**51**		1
Maximum call duration	[min]	**52**		1
Time between button press	[sec]	**53**		1
On hook time before new call	[sec]	**54**		1
Call start time	[sec]	**55**		1
Number of rings before hang up or group mode switching		**56**		2
DTMF tone duration	(n+5)x10	**57**	ms	1
Gap between DTMF tones	(n+5)x10	**58**	ms	1
Recall duration	nx100	**59**	ms	1
Pause duration	nx100	**50**	ms	1

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8 Drilling master board